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(56) Documents Cited

US 5900875 A  
www.zdnet.co.uk/pcmag/labs/1998/09/perfect\_pc/  
56.html ©1998 www.zdnet.co.uk/pcmags/labs/1998/  
07/pda/page19.html ©1998 www.palm.com/  
products/family.html http://www.palm.com/  
support/handbooks/palmpilothb.pdf ©1997,  
PalmPilot handbook pp.4-5,7,20-21,37-39

(58) Field of Search

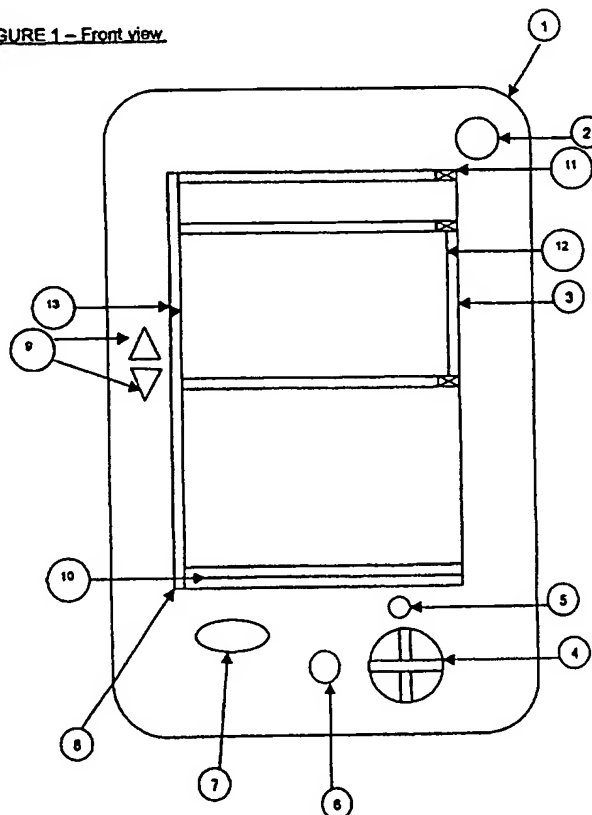
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ONLINE: ELSEVIER, EPODOC, IEL, INSPEC, INTERNET,  
JAPIO, WPI, TDB

(54) Abstract Title

**Hand-held multimedia viewstation**

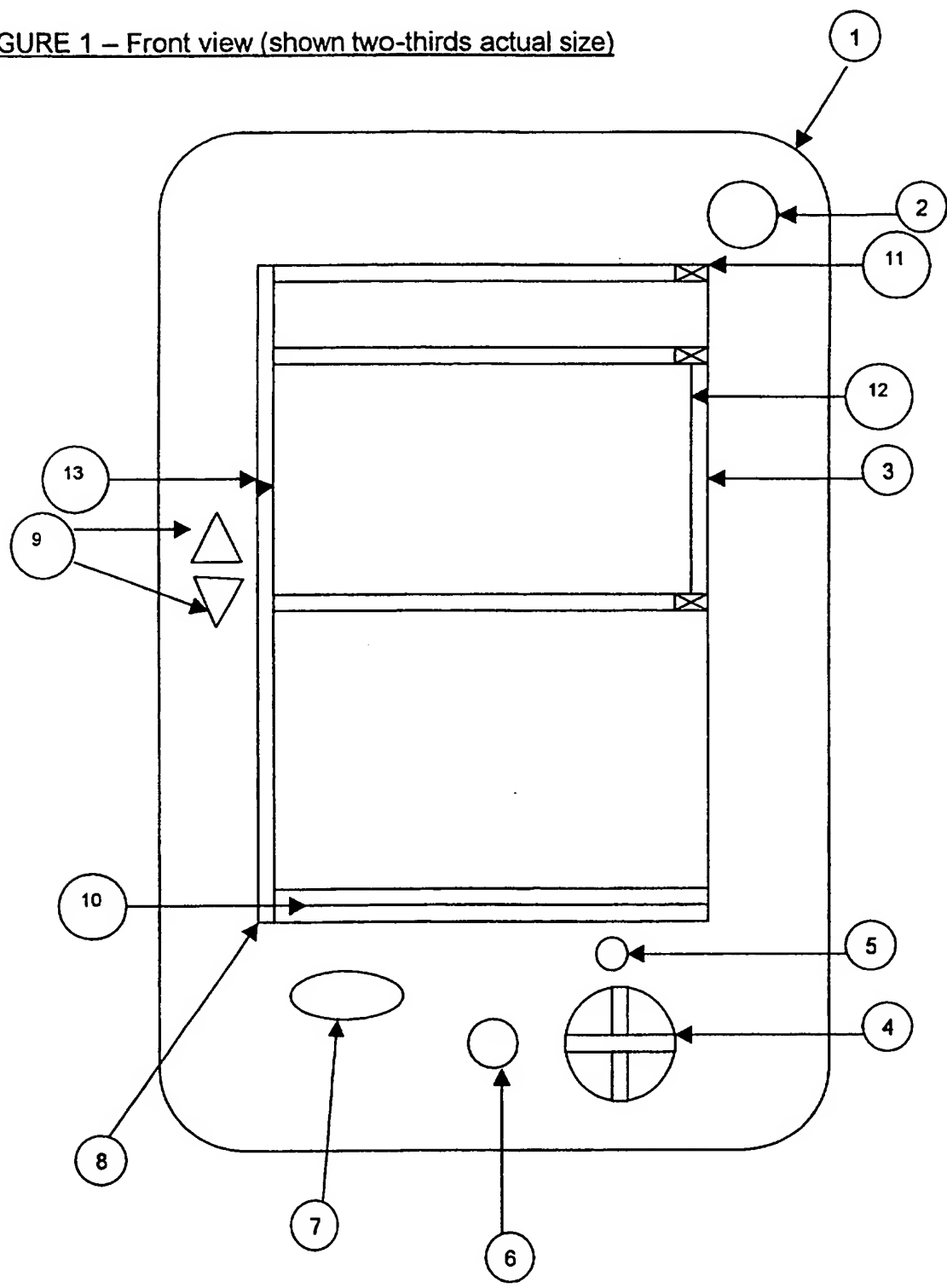
(57) A hand-held portable electronic viewstation includes a screen and allows a variety of media to be viewed concurrently, including music, text, graphics, videos and computer games. The viewstation is provided with means of connecting to the internet, via a modem, and also has means of transferring files from a personal computer. A virtual keyboard is provided on screen. The viewstation may have web browser software installed, wherein navigation is achieved via the virtual keyboard. The screen may be a thin-film transistor (TFT) type.

FIGURE 1 – Front view



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FIGURE 1 – Front view (shown two-thirds actual size)



**FIGURE 2 – Rear view**

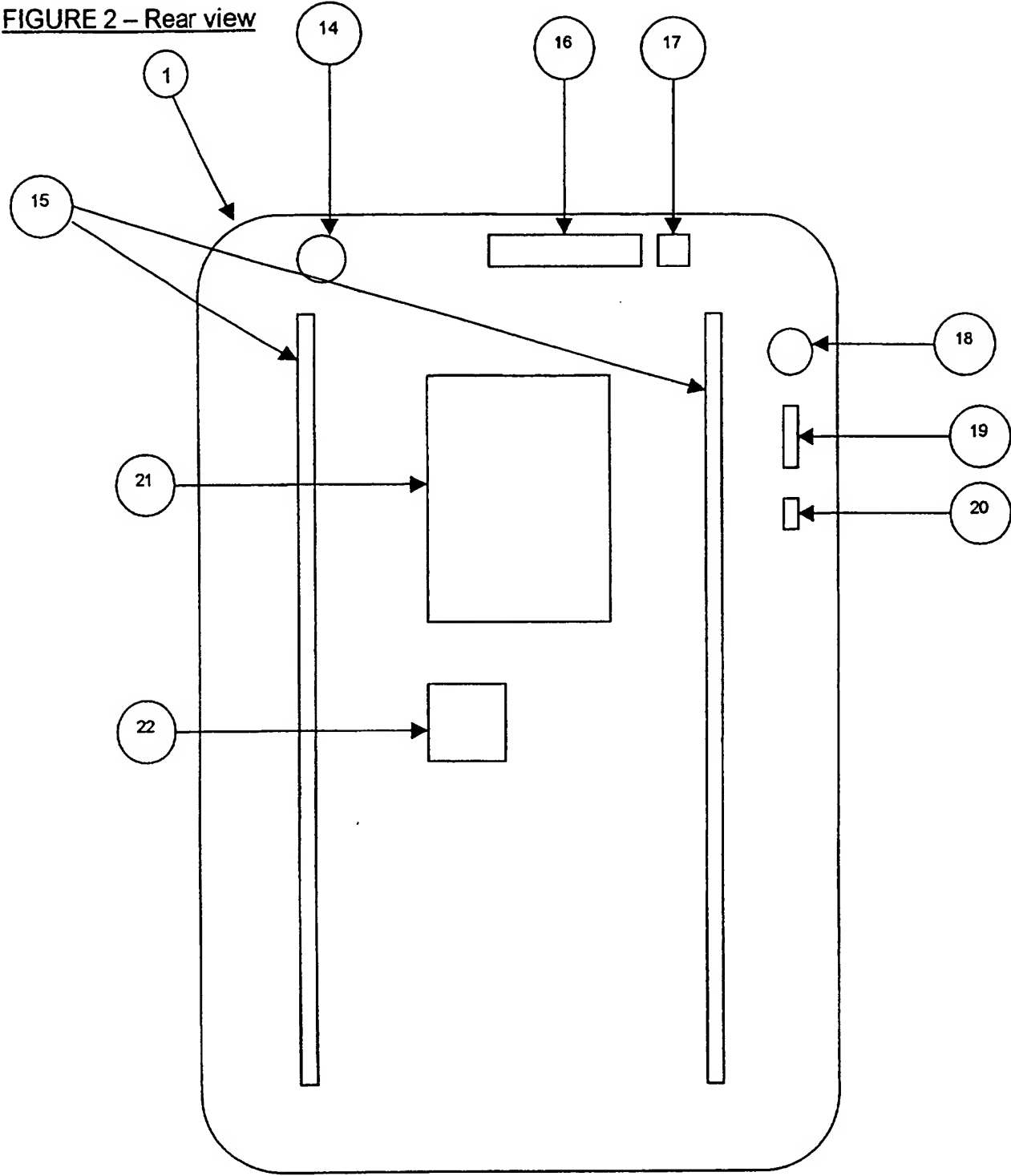
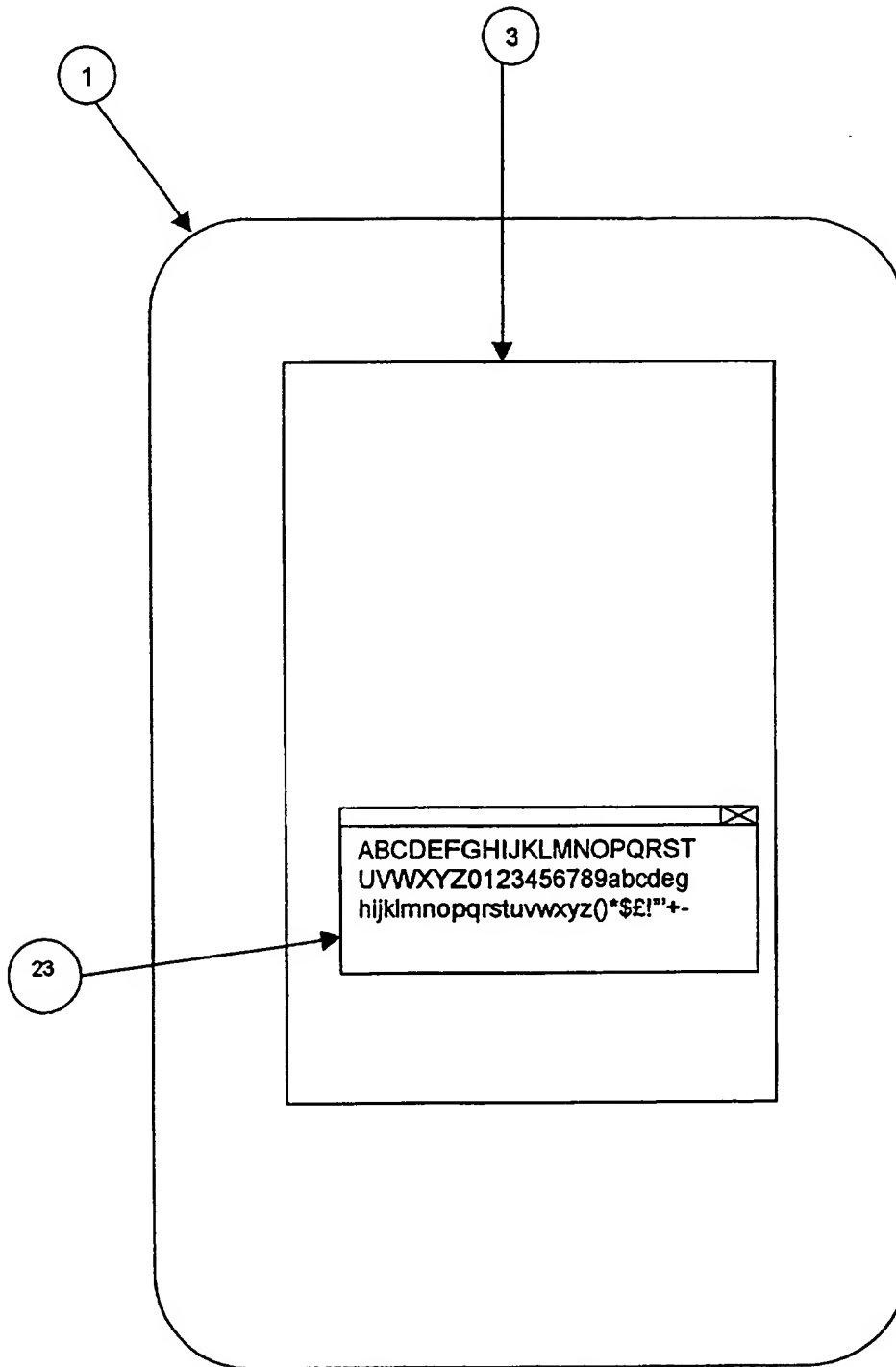


FIGURE 3 – Virtual Keyboard



## **1. Description of Personal Viewstation**

This is a small, portable, electronic device (simplified computer) which can be used to view, and, in some cases, listen to, a variety of media, including written text, graphics, video data, music, animated computer games, and so on.

It is similar in principle to what is often described as an electronic book. However it is not intended to look like a book or function like one, since it is dealing with a variety of media. It is intended that it will be easily portable, stylish and brightly coloured, with a very simple user interface. It will have a built-in, removable modem (standard card-type), as it is envisaged that the Internet will be the principal source of its data – in fact a major design goal is to make available a relatively cheap device which can make the best possible use of the advantages offered by the Internet. It will, however, also be able to accept data from a PC or Apple Mac.

It will have a simple, Windows-like, multitasking operating system and a large amount of memory, in which the data will be organised by a simple filing system. It will contain within its own memory all the software required for its operation (which may be upgraded by download), plus an Internet browser and a program for transferring files to and from a PC. It will know implicitly how to handle each format of data presented to it and will not allow the transfer of files which it doesn't understand. For text files, it will preserve hypertext links within the context or the same document (i.e. links which act as an index into the material).

It will be about the size and weight of a standard paperback (i.e. able to fit comfortably inside a handbag) – not unlike a personal CD player in appearance. It will be supplied with a soft pouch for its protection and a pair of earphones for listening to the sound. It will have a set of AAA batteries as a main power source, with the option of a (supplied) mains connection, plus a lithium backup battery to provide power while the main batteries are being changed.

The outer casing will be of brightly-coloured, robust plastic, with bright buttons for manipulating the interface. The screen itself will measure about 15cms (6 inches) by 10 cms (4 inches) and will be a high

resolution, backlit, colour TFT screen of the type found on laptop computers, but with a thicker casing. The sound will be high-quality stereo. There will be volume and tone controls next to the earphone connection point.

Because of its intended small size and weight it cannot have a conventional keyboard. Yet it will need some means of keying in text in order to navigate the Internet. To facilitate this it will be provided with a pop-up, virtual keyboard where the letters can be selected by cursor. This is shown in FIGURE 3. There will be the capability of storing favourite Internet addresses as with standard browsers.

To make it easier to read text, maps, etc, on such a small screen, there will be a zoom facility via a rocker-type button. The centre of the zoom will be the cursor position.

It will not be possible to print the data files nor to alter them in any way, other than to mark passages of text by underlining or altering the colour. When text is so marked, the software will create an index pointing to these texts, which will be stored as part of the document. This is to assist people who are using the device to carry out research. There will also be a text search facility, with input via the virtual keyboard mentioned above. It will be possible, via a dropdown menu associated with each file, to go directly to a particular page of the text.

There will be a clock, date and stopwatch, which can be positioned anywhere on the screen and customised as to the size, colour and format. There will be facilities for checking the condition of the batteries.

As the computer is multitasking, it will be possible to have several files open at once. So, for example, it would be possible to listen to music while looking at a text file, beneath which was a video of a football game. Each time a file is opened the system will divide up the screen equally between the open files. The user may change the sequence and size of them by drag and drop and by pulling at the boundaries.

When opening files, the system will provide scrollbars where necessary and also a windows-like X button for closing it. A file can be opened more than once, to

allow, for example, a view of the index or table of contents.

Each open file will have its own cursor but the cursor may only be moved on the current file. The user may use the arrow-shaped buttons on the left-hand side of the screen (FIGURE 1) to move between the open files. At the very bottom of the screen will be two fixed files – the **file index** and **system options**. There will be an indicator at the left edge of the screen which shows the current file – i.e. the one where the cursor is active.

When the **file index** becomes the current file, it will automatically open up over the entire screen showing all the available files in alphabetic sequence. The **file index** window will have a menu option for deleting files which are no longer required. It will also show how much space remains.

When the **system options** becomes the current file these will be displayed as a menu of choices. They will include such things as customising the clock, bringing up the virtual keyboard discussed above, logging into the Internet and viewing the status of the batteries. When either of the above is no longer current it will automatically close.

The cursors on non-current files will remain in place. When the system is switched off the entire system will be frozen in place and will reappear exactly as it was left when switched on again, including the position within any text files which are open. There will also be a means of locking the cursor.

The intended market for this device is broad – it is designed to be very versatile. It could be used by researchers (text files), walkers and drivers (maps), commuters (music, newspapers, games and literature), children (music, video and games), cooks (recipes), students (text files, graphics, music) – in fact anyone who can find useful data on the Internet.

The following drawings are supplied:

FIGURE 1 is a front (top) view of the device.

FIGURE 2 is the rear (bottom) view of the device.

FIGURE 3 shows the virtual keyboard.

Looking at FIGURE 1 first of all, the circled numbers point to features as follows:

1. The durable plastic outer casing. No lid, as a pouch will be provided instead.
2. The ON/OFF button. A standard push-button.
3. The screen area.
4. The cursor control. Like that on a play-station it will be able to rock in both horizontal and vertical directions. It only applies to the current file. For computer games it will act like a joystick.
5. The cursor lock. Actually a software rather than a hardware lock. It effectively de-activates the cursor. Pushing it again reactivates.
6. The ENTER or FIRE button. This will be coloured red. It will be used, in conjunction with the cursor control, for selecting files to be opened, closing files, selecting text and other functions. Also shooting down enemy aircraft.
7. The zoom rocker switch. Zooms the current file in or out, using the cursor position as its central point.
8. Current file indicator strip. Actually within the screen area.
9. Buttons for moving the current file indicator, including the selection of the **Index** and **System** files.
10. Strips indicated in the screen area showing the position of the **Index** and **System** files.
11. The screen as depicted in the diagram has three open files (apart from **Index** and **System** files). Each of them is provided with a menu bar at the top as indicated by the arrow, the purpose of which will vary depending on the type of file (for text files it will include a means of marking selected text and positioning within the text). At the very least the window for each file will have a means of closing it, shown as an X on the right-hand side of the menu.
12. Shows the scrollbar which has been set up by the system for a text type file which is longer than its window. This will work in precisely the same way as a standard Windows scrollbar.
13. The current file indicator, the position of which can be moved by the buttons at 9. The current file relates mainly to the operation of the cursor.



The rear view, as depicted in FIGURE 2, contains the following features:

14. The connection to the external power supply. Standard pin-type connection. Note that this and other features are actually pointing forward, as there is a slope up to the raised edges at 15.
15. Two parallel raised edges, shaped into the outer shell, which perform the dual function of providing a stable base when the device is placed on a flat surface, and providing a means of holding the device on someone's lap.
16. Slot for the removable card-type modem.
17. Cable connection to the telephone for use in connecting to the Internet or to a PC or Apple Mac. Standard telephone socket. Both types of cable supplied.
18. Connection for external headphones – standard connection.
19. Volume control as a standard furled knob (actually points out sideways).
20. Tone control as a standard furled knob (actually points out sideways).
21. Cover for the main battery compartment. Standard cover of this type.
22. Cover for the backup battery. Standard of this type.

Finally, FIGURE 3 shows the virtual keyboard (pointed to by 23). This can be selected from the **SYSTEM** file and can be moved to any position on the screen by dragging with the cursor (dragging is accomplished by moving the cursor while the ENTER button (6) is held down). Letters, numbers and special characters (of which a selection are shown) on the keyboard can be selected by positioning the cursor on them and pressing the ENTER button. There are also keys for deleting, spacing and so on, as with any keyboard. [Note that the keyboard will differ depending on the language of the user. Language is not a selectable feature – the device will be supplied in a language dependant on where it is purchased.] The virtual keyboard can be closed like any other window by positioning the cursor on the X at the top right and pressing the ENTER button.

In day to day, the most common activities would be to

- Download a file from the Internet
- Open a file for viewing or listening to

#### Downloading a file

The steps which would most typically be followed are:

- Connect the device to a telephone line via connection 17.
- Turn it on via button 2. The fixed files **System** and **Index** will appear at the bottom of the display.
- Using switches at 9 move the current file indicator down until it is positioned on **System**.
- Press the Enter button at 6. The menu of system functions will appear.
- Using the cursor control at 4, move the cursor down to the function which is called "Connect to the Internet" (or similar). Press the Enter button at 6.
- The connection software will start up and automatically log the user onto the Internet via their own service provider. The virtual keyboard (23) will be started automatically. The user may move it to a more convenient position by positioning the cursor on it using control 4 and dragging it by holding down the Enter button at 6 and moving the cursor control at the same time.
- The Internet browser will automatically be started. The user can now navigate using the virtual keyboard for any data needing to be entered, and the cursor control (4) and Enter button (6) for connecting to sites through hyperlinks.
- If the user finds a file to download, the download will be initiated in whichever way has been provided, or by selecting this function from the browser menu. The system will verify that the file is of a suitable format. The user will be asked to provide a name for the file using the virtual keyboard.
- Once the file has been downloaded the user may download other files or logoff the Internet, using an option on the browser menu.

- The device may now be disconnected from the telephone line and switched off.

### Opening a file

The steps which would most typically be followed are:

- Turn the device on using button 2. The fixed files **System** and **Index** will appear at the bottom of the display.
- Using switches at 9 move the current file indicator down until it is positioned on **Index**.
- Press the Enter button at 6. The index of available files will appear.
- Using the cursor control at 4, move the cursor down to the file to be opened. Press the Enter button at 6.
- The system will now open the file. If it is an audio file the user can plug in headphones at 18 and adjust the volume and tone at 19 and 20.
- At any time the user may close the file by positioning the cursor on the top-right of its window and pressing the Enter button at 6.

## Claims

1. A small hand-held, portable electronic viewstation (without a keypad) for viewing in colour (and, in some cases, listening to) a variety of media concurrently, including music, text, graphics, videos and computer games, which is supplied with a means of connecting to the Internet by a standard telephone connection and virtual keyboard, and also has a means of transferring files from a PC or Apple Mac.
2. A connection to the Internet, as claimed in 1, using browser software internally loaded into the viewstation and where any text required to be entered, as may be required for navigating the Internet, is entered by use of the virtual keyboard as claimed in 1.
3. A connection to a PC or Apple Mac as claimed in 1 using a file management system internally loaded into the viewstation.
4. The viewstation to be portable, as claimed in 1, such that it may run off commonly available AAA-type batteries.
5. The viewstation as claimed in 1 to be provided with a high resolution TFT –type screen, and high quality digital sound output via personal headphones.
6. The viewstation as claimed in 1 to be encased in a durable plastic case requiring no lid.
7. A personal viewstation substantially as herein described and illustrated in the accompanying drawings.



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Application No: GB 9924794.2  
 Claims searched: 1-7

Examiner: Matthew J. Tosh  
 Date of search: 2 April 2001

## Patents Act 1977 Search Report under Section 17

### Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.S): G4A (ADT, AUXX)

Int CI (Ed.7): G06F 1/16

Other: ONLINE: ELSEVIER, EPODOC, IEL, INSPEC, INTERNET, JAPIO, WPI, TDB

### Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
A	US 5900875 (3COM CORP.). See description and figures.	
A	<a href="http://www.zdnet.co.uk/pcmag/labs/1998/09/perfect_pc/56.html">www.zdnet.co.uk/pcmag/labs/1998/09/perfect_pc/56.html</a> © 1998. Note clickable image on right of page.	
A	<a href="http://www.zdnet.co.uk/pcmags/labs/1998/07/pda/page19.html">www.zdnet.co.uk/pcmags/labs/1998/07/pda/page19.html</a> © 1998, Palm III, (3COM CORP.).	
A	<a href="http://www.palm.com/products/family.html">www.palm.com/products/family.html</a> , see Palm IIIc column data.	
A	<a href="http://www.palm.com/support/handbooks/palmpilothb.pdf">http://www.palm.com/support/handbooks/palmpilothb.pdf</a> © 1997, PalmPilot ® basic handbook (3COM CORP.), pages 4-5, 7, 20-21 and 37-39.	

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&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.